Research on the Talent Training Mode Based on Comprehensive Major Reform

Fengjun Shang

College of computer science and technology, Chongqing University of Posts and Telecommunications, Chongqing, China
*Corresponding author. Email: shangfj@cqupt.edu.cn

ABSTRACT

The major of computer science and technology is the key major of Chongqing University of Posts and Telecommunications, which has the first type of national characteristic specialty construction point of "computer science and technology", national teaching team and national bilingual teaching demonstration course. This major thoroughly implements the spirit of the national education conference, adheres to the "orientation", promotes the "four return", strengthens the connotation construction, focuses on promoting the comprehensive reform of curriculum system, teaching resources, training mode and teaching staff, so as to promote the overall improvement of talent training level.

Keywords: comprehensive reform, training program, teaching reform

1. INTRODUCTION

Chongqing University of Posts and telecommunications is the characteristics and advantages of information science and technology, which has an important impact on the field of post and telecommunications industry and information industry. The major of computer science and technology is the key major of Chongqing University of Posts and telecommunications. Through years of construction, it has gradually formed a stable major direction of "intelligent information processing", "computer communication", "computer network", "multimedia technology", "information security" and "space information processing", and it has established the first category country of "computer science and technology" There are 1 national bilingual teaching demonstration course and 4 excellent courses in Chongqing [1-3]. It is the first batch of talent training base for software industry in Chongqing. The students have the ability of computer analysis, communication system development and application.

2. PROFESSIONAL ABILITY NEEDS BE IMPROVED THROUGH RATIONALITY EVALUATION FOUNDS

The evaluation and revision mechanism of training programs is an important guarantee to ensure that training programs are reasonable and meet the needs of social development [4]. Chongqing University of Posts and Telecommunications issued the "guidance on the revision of the 2020 edition of professional training program", which clearly stipulates that the undergraduate professional training system should be revised once every four years, and it can be appropriately modified every year according to the specified process. The main basis of the rationality evaluation system of the training program: the training program of the major conforms to the orientation of the school, adapts to the needs of social development and changes, the needs of industry development, the demand of engineering technology development, the resources and conditions of the specialty, and the expected goals (ability, qualification, level, etc.) that can be achieved after graduation for about 5 years.

To investigate the rationality of the training program for graduates, employers, students and teachers. The rationality evaluation is mainly in the form of questionnaire. The 5-level rating table is used. The corresponding weight values of rationality evaluation are 1, 0.8, 0.6, 0.4 and 0.2 respectively. The weight value 1 is reasonable, and 0.2 is very unreasonable. The rationality evaluation value of each secondary index of the training program of this major is equal to the weighted average value based on the number of people. The formula is as follows:

$$\text{The rationality evaluation value} = \frac{\sum_{i=1}^{5} ith\ number\ of\ people \times ith\ level\ weight}{The\ total\ number} \tag{1}$$

The arithmetic mean value of rationality evaluation value of all secondary indexes is taken as the rationality evaluation value of each training scheme.

The results of the questionnaire were analyzed to obtain the average value of each training program, and the lowest average score was used as the basis for evaluating the rationality of the training program.

According to the evaluation results of the rationality of the training program, and in combination with the evaluation and opinions of industry and enterprise experts in the field, the working group meets to analyze the evaluation results and feedback from all aspects, and forms a report and submits it to the college for continuous improvement of the subsequent training program.

The survey results of this major are shown in Figure 1. It can be seen from the figure that the evaluation value of the rationality of the training program is above 0.8. According to the analysis results of the evaluation table of employers in the comprehensive figure 2 to meet the needs of social and economic development, the training program of this major is relatively clear, which basically reflects the needs of the development of industry and engineering technology, and meets the current development needs of the information industry.

From the rationality evaluation value of Figure 1, there are some differences. Relatively speaking, the four survey groups have the highest reasonable evaluation value for goal 4 (with strong innovation consciousness and self-learning ability, and can constantly expand knowledge and enhance ability to adapt to economic, social and Industrial Development), which indicates that it is generally believed that in solving complex engineering problems and employment in the computer field The competitiveness has reached a good level [5-7]. The difference of rationality evaluation value of objective 1 (comprehensive application of mathematics and natural science, engineering foundation and computer professional knowledge, analysis of complex engineering problems in computer field, design of solutions, and design and development of computer application system, data analysis and processing, system management and maintenance) of the four survey object groups have the biggest difference. Through analysis, it is very important for the quality of technical personnel, and it is considered that it is not good enough.
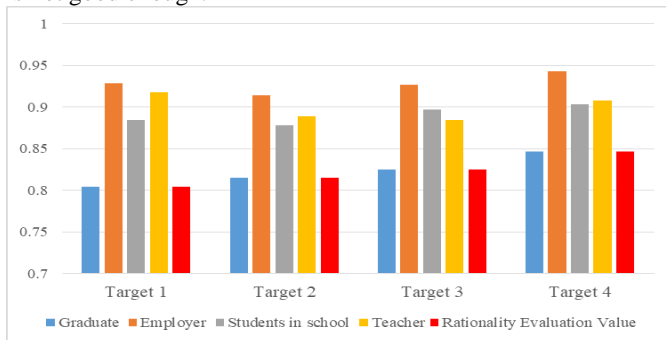

Figure 1 The evaluation results of training scheme rationality
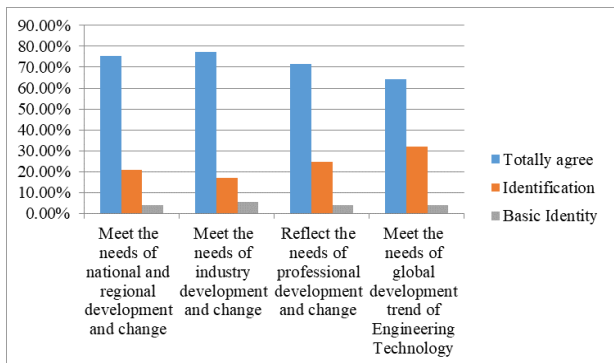

Figure 2 The employer evaluation results

The evaluation value of the rationality of the training program by the employer is above 0.8, which indicates that they agree with the current training program. Combined with the analysis, it shows that the orientation of the professional training program is clear, which basically reflects the development needs of industry and engineering technology, and meets the current development needs of information and communication industry. On the other hand, we need to strengthen the ability of expression, problem analysis, interpersonal communication, organization and management.

3. COMPREHENSIVE REFORM MEASURES

This major thoroughly implements the spirit of the national education conference, adheres to the "orientation", promotes the "four return", strengthens the connotation construction, focuses on promoting the comprehensive reform of curriculum system, teaching resources, training mode and teaching staff, so as to promote the overall improvement of talent training level. Combined with the national and Chongqing information technology industry development strategy, optimize the curriculum system. We should strengthen the teaching of basic knowledge and basic skills and the cultivation of basic quality, pay attention to the core knowledge and core ability of students, such as software and hardware, network, data, intelligence, etc., and build a "two-dimensional, three-level, multi module" practical teaching system throughout the whole process of talent training [8]. Set up innovation and entrepreneurship credits, and identify the credits of all kinds of science and technology competitions, scientific research activities, innovation and entrepreneurship training, skill certification and other activities that students participate in. We will promote the reform of teaching organization mode of "combination of classes and competitions", strengthen the organization of excellent events such as program design, database and intelligent terminal, and improve students' ability of innovation and practice, communication and speculation. The ideological and political education should be integrated into the professional system to guide students to practice the socialist

3.1. Strengthen the Construction of Teaching Staff

According to the talent introduction system, the college has implemented the open recruitment of full-time teachers, visited relevant colleges and universities, and actively publicized the policy of attracting talents. In the past three years, the college has attracted 7 outstanding doctors from home and abroad. At the same time, more than 30 person times of teacher training and further education were sent from time to time, and 6 young and middle-aged teachers

were supported to work in enterprises for training, domestic and foreign research and study visits.

We should strengthen the construction of departments and curriculum groups, guide teachers to take teaching as the key, scientific research as the basis, and coordinate development. In combination with specialty construction and curriculum construction, we should organize and guide teachers to apply for teaching research projects, carry out teaching reform on teaching methods and means, curriculum content, and carry out teaching and research activities on a regular basis. The new teachers are equipped with tutors and arranged to join the research team to encourage the scientific research achievements to enter the classroom.

3.2. Strengthen the Construction of Teaching Quality Assurance System

Focusing on the quality of personnel training, the quality standards of theoretical teaching, practical teaching, practical teaching, graduation design (Thesis) and other links are clarified. The college has set up teaching guidance sub committee, degree sub committee, teaching supervision group and departments (departments and centers) to be responsible for the determination of training programs, the formulation of training programs, the setting and revision of curriculum system, and the division of labor and cooperation Complete their respective management responsibilities in the quality of education and teaching. Through teaching supervision, special inspection of teaching work, students' evaluation of teaching (class), teachers' evaluation of teaching (learning) and feedback of student information staff, the supervision of teaching process is strengthened. Collect teaching information from peer teachers, teaching supervisors, teaching managers, students and other different angles, timely discover the problems in teaching and teaching management, and continuously improve the training program, graduation requirements and curriculum system with students as the center, so as to enhance the training effect.

3.3. Enrich Teaching Resources

We should make use of major construction and first-class majors to increase funding support, and encourage teachers to compile characteristic and high-level professional textbooks in combination with professional characteristics. Relying on the laboratory, innovation base and resource platform jointly built with IBM, Cisco, telecom, China Mobile, Unicom, ZTE, Qihu 360 and other enterprises, we will strengthen the construction of high-quality education resources, give full play to the innovation and entrepreneurship projects, major competitions, graduation design, etc., and strengthen the level of deep, difficult and challenging financial course construction.

3.4. Increase Openness and Cooperation

We should strengthen cooperation with enterprises and institutions, scientific research institutes, universities, parks and industry associations in Chongqing, improve the talent training mode with ZTE and the Chinese Academy of Sciences, promote teacher training, curriculum content updating, experimental platform construction, and off campus practice base construction, improve teachers' ability, update curriculum content, and expand innovative practice platform.

3.5. Deepen Teaching Reform

With engineering education as the starting point, teachers are encouraged to carry out the reform of teaching contents, methods and means, improve students' awareness of large-scale engineering and engineering practice ability, and promote the construction of new engineering courses. Actively participate in "engineering education reform pilot" and "excellent engineer training plan", improve engineering students' engineering practice ability, and comprehensively implement the "six outstanding and one top-notch" plan. To carry out the exploration and practice of international talent training mode, cultivate students' awareness and ability to participate in international competition. Strengthen the teaching staff. We should use the "Wenfeng talent project" and "high-level talent" identification methods to create a high-level leading talent and its reserve talent team, train young and middle-aged backbone teachers, encourage teachers to work in information and communication industry enterprises for training, improve teachers' engineering practice ability.

4. CONCLUSION

Through the social investigation conducted by the third party from time to time, the situation of the employer and the training quality of graduates are tracked. In the employers, the students mainly serve in the field of media / information / communication, which is in line with the professional orientation and the talent demand of Chongqing. The employer's overall satisfaction with graduates is 98%. Through the distribution of questionnaires, the graduates' ability to achieve, satisfaction and other surveys. In recent three years, the professional ability has reached more than 85%, which reflects that students can comprehensively use relevant knowledge to solve complex engineering problems; employment satisfaction reaches 96.8%, personal comprehensive quality and professional quality have competitive advantage of 93.6%; professional core knowledge and vocational skills have the ability to solve complex engineering problems reaches 85.6%; talent training orientation which meets the needs of society and enterprises is 92.8%.The achievement degree of the training program is consistent with the

evaluation result of the employer, with an average of more than 80%; the recognition degree of the training program is more than 88%; and the final recognition degree of the training program of 53 household units is more than 86%. In recent three years, the average employment rate of graduates is more than 95%, which shows that the training program has been recognized by the information and communication industry.

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